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ANCIENT BRITAIN.

Ancient Britain and the Invasions of Julius Caesar.
By Dr. T. Rice Holmes. Pp. xi+764. (Oxford : Clarendon Press, 1907.) Price 21s. net.

THIS substantial volume divides itself, roughly speaking, into two halves, of which the first is the text of the author's story of ancient Britain extended so as to include Julius Cæsar's invasions and their more immediate results. The other is devoted to discussions and notes on special subjects, varying greatly in length and importance.

The summing-up at the end of the story is hardly cheerful reading. In some respects the author thinks we have sunk below the level of "those primitive ancestors" who form the subject of his work. He asks in what we have advanced, and answers that we have made giant strides in all that appertains to material civilisation. He proceeds in the following terms :—

" But such improvements hardly enable men to bear up under burdens which are ever increasing. The tourist in a Pullman car is not happier than those who travelled in stage-coach or waggon, and speed deprives him of as much as it bestows ; machinery has but substituted fresh evils for those which it destroyed. New superstitions, less gross but not less false, have been engrafted upon the old : but 'pure religion and undefiled,'—how far has it strengthened its hold on the hearts of men ? "

The reader will form some idea of the wide scope of his study of the primitive ancestors from the following headings of the chapters on ancient Britain : the Palæolithic age, the Neolithic age, the Bronze age and the voyage of Pytheas, the Early Iron age, Cæsar's first invasion of Britain, Cæsar's second invasion, the results of Cæsar's invasions.

It is to be hoped that Dr. Holmes may prove mistaken when he asserts in his introduction that we already know all, or nearly all, that sepulchres and skulls and coins can teach us of ancient Britain and its inhabitants. He goes on to express views which, if hardly more encouraging, are more likely to be in accord with those of his readers :—

" There is room also for many labourers in excavating stone circles, camps, and earthworks, and determining their age, in exploring habitations, wherever they can be found, and learning what they can teach about those who constructed them. What has been already done in this department has produced the most fruitful results. . . . But such work, which in other civilised countries is an object of national concern, languishes here for want of funds. No British Government can expect support from the intelligence and the public spirit of its constituents in spending money upon archaeological research, or has the courage to give them a lead ; and where are the wealthy Englishmen who will follow the example of their American cousins in endowing such work ? "

At the risk of seeming to digress, we should like to point out that this state of things shows signs of coming to an end, and we may mention as one of

our reasons for believing so the appointment not long since of a Royal Commission to report on the antiquities of Scotland. It is devoutly to be hoped that the Government will do more and extend the sphere of its activity so as to include other parts of the kingdom.

We shall now endeavour to give the reader an idea of ancient Britain and its populations as Dr. Holmes conceives of them. He regards the Bronze age as beginning in this country about 1800 years before the Christian era, but many centuries previously the island began to be invaded from various parts of northern Gaul by a Neolithic people, whom he describes as follows (pp. 64-5) :—

" The skeletons that have been exhumed from the Neolithic tombs of England, Scotland, and Ireland . . . belong, for the most part, to the same general type. All, or almost all, had long narrow skulls : their faces were commonly oval, their features regular, and their noses aquiline : most of them were of middle height, and their limbs, as a rule, were rather delicate than robust. Men with the same physical characters lived contemporaneously in Gaul and the Spanish peninsula, and are still numerous in the basin of the Mediterranean ; and the race to which they belonged is often called the Iberian, though there is no reason to believe that its British representatives belonged to the Iberian rather than to some other branch of the Mediterranean stock. But it is remarkable that while early in the Neolithic age Gaul and Spain, as well as Central Europe, were overrun by invaders of a totally different kind, who were extremely short and sturdy and had broad round heads, there is no evidence that men of this race reached Britain until the very end of the [Neolithic] period, and then only in comparatively small numbers. One would be inclined to infer that tribes of the Mediterranean stock began to migrate into Britain before many of the round-headed race had settled in Gaul. Vain attempts have been made to trace the [Neolithic] migration to its original starting-point by the distribution of the dolmens, or rude stone sepulchres, which are found in many European countries. . . . Everything points to the conclusion that the earliest dolmen-builders of Britain retreated from Gaul before the sturdy round-headed invaders ; and it is useless to inquire whether the Mediterranean stock, to which the British, like the earlier French dolmen-builders, belonged, originated in Europe, in Asia, or in Africa. We only know that the oldest traces of the race were discovered in the Riviera."

At this point the author refers to certain philologists, who, like Prof. Morris-Jones, see in the syntax of the Neoceltic languages the influence of a language akin to the Hamitic dialects of Africa, with which it may be supposed to have come in contact after the advent of the Celts to Britain. He asks (p. 405) why it may not have been affected by some such contact before their arrival here. Doubtless that question occurred to Prof. Morris-Jones, but he was probably prevented from answering it in the way which Dr. Holmes would seem to suggest by the fact that there are some sentences of Continental Celtic extant, and that they show few traces, if any, of the non-Aryan syntax referred to. Whether Dr. Holmes noticed that difficulty does not appear, but if he is right in saying that the Neolithic short-heads chased the " Iberians "

—a French historian would probably say “Ligurians”—across the sea to Britain, the difficulty is perhaps removed.

Perhaps the most valuable pages of the book are those in which he demonstrates that the short-headed race was not Celtic. He represents it as wholly different in physical type from the aborigines of Mediterranean stock whom it began to invade in the Neolithic age. Following the lead, if we mistake not, of the ceramic studies of Mr. Abercromby, he treats it as coming “from the Netherlands, from Denmark and its islands, perhaps also from Scandinavia and from Gaul.” He gives the following description of it (p. 127):—

“Those immigrants have often been described as a tall, stalwart, round-headed race; but the evidence of sepulchral remains shows that they sprang from various stocks. Those of the type which is commonly regarded as specially characteristic of the Bronze age were taller and much more powerfully built than the aborigines: their skulls were comparatively short and round; they had massive jaws, strongly marked features, enormously prominent brow ridges and retreating foreheads; and their countenances must have been stern, forbidding, and sometimes almost brutal. Similar skulls, which have much in common with the primitive Neanderthal type, have been exhumed from neolithic tombs in Denmark and the Danish island of Falster. But the skeletons which have been found in some of the oldest Scottish cists belonged to men whose average height, although they were sturdy and thick set, was barely five feet three inches, and whose skulls, shorter and rounder than the others, as well as their milder features, proved that they were an offshoot of the so-called Alpine race of Central Europe, of which there were numerous representatives in Gaul. Again there were tall men with skulls of an intermediate type; while others, who combined harsh features and projecting brows with narrow heads, and whose stature was often great, would seem to have been the offspring of intermarriage between the older and the newer inhabitants. Not a single skeleton of the characteristic British round-barrow type is known to have been discovered on French soil: the round-headed inhabitants of Gaul were as conspicuously short as those of Britain were generally tall.”

The short-headed invaders began to arrive in comparatively small numbers before the end of the Neolithic age, and bands of them “landed successively through long ages upon our eastern and southern shores” after the Bronze age set in (p. 127); but “there is no evidence that the brachycephalic people who built round barrows ever reached Ireland, at least in appreciable numbers” (p. 432). They seem to have intermarried with the Neolithic aborigines, and possibly in the course of ages they gave up their language in favour of the latter’s. In any case, these conclusions would, to all intents and purposes, concern the eastern and southern coasts alone, which are not represented by any known Celtic language, living or dead. So it would be idle to suggest that, in case the language of the short-heads became firmly established here, its influence on subsequent Celtic on our southern and eastern coasts might be very different from that of the language of the Neolithic aborigines more to the west, let us say, on the syntax of Irish and Welsh; for the evidence is wanting in the shape of a Celtic

speech embodying the results of the modifying influence in question. Dr. Holmes applies the term aborigines to the populations of Mediterranean stock that were here from the beginning of the Neolithic age, and extends that stock to Ireland (pp. 64, 109, 398). If, as we believe, he is right in his treatment and distribution of these people whom he claims to call the aborigines, it would be natural to suppose them to have left their name to the islands of our archipelago. We allude to the name underlying that of *Πρετανικαὶ Νῆσοι* or Pictish Islands. Dr. Holmes will have none of this: he declines to admit that “the Picts represented that race in a special sense” (p. 409). For him “the Picts were a mixed people, comprising descendants of the Neolithic aborigines, of the Round Barrow race, and of the Celtic invaders” (p. 417). This conclusion leaves us not a little puzzled, not only as to how he distinguishes between his last-mentioned Celtic invaders and the main body of Celtic settlers, but as to how he proposes to settle the question of the distribution of his mixed people in the British Isles.

He has exposed with relentless industry all kinds of inconsistencies and mistakes in the theories to which he is opposed, and thereby has rendered great service to the history of ancient Britain. For all that, he is not at his best when teaching their business to the mistaken individuals who set out to study Celtic philology. His usual method is to pit the views of one against those of another, and in the case of views which he cannot accept himself he makes use of all the resources of his critical skill: not invariably so, however, with views which fall in with his own. Thus he virtually denies that ancient Irish had the sound of *p*, and states (p. 411) that M. d’Arbois de Jubainville “reminds his opponents, that *p* is absent from all Ogam inscriptions.” This would not be true, as it occurs not less than a score of times in Ogam, and—a fact which excludes doubt as to the sound meant—two of the names which have it happen to be the Latin Pompeius and Turpilius. This statement surprised us not a little, as the learned Frenchman has not been known to devote much attention to Ogam inscriptions. On perusing the review in which he is represented as making his sweeping assertion, we discover that it is conspicuous by its absence. What he did say was that *p* is not found in the Ogam alphabet, which is by no means the same thing; the distance of time between the oldest Ogam alphabet (dating from the beginning of the twelfth century) and the oldest Ogam inscription containing a symbol for *p* may be put down as ranging from five to seven centuries. Dr. Holmes could if he liked have been more accurate, and at the same time leave M. d’Arbois de Jubainville’s opponents with plenty of difficulties to engage their attention.

To take another instance, the author uses the following words (p. 421).—

“According to Bede, the place which marked the western termination of the wall of Severus was called in Pictish *Peanfahel*. *Pean* is commonly identified with the Welsh word *penn*, ‘a head’; and accordingly it has been inferred that Pictish was ‘a Kymric or

semi-Kymric dialect.' Mr. Nicholson, on the other hand, claims to have shown that *Pean* is 'a Goidelic borrowing from the Latin *pinna* or *pinna*.'

The astonishing allusion here to the *western* termination of the wall of Severus might seem at first sight to be a mere misprint for *eastern*; but, on looking at the original, it turns out to be something more, something calculated to create serious uneasiness as to other statements which one has not had time to verify in this volume. Bede's words, as given in Plummer's edition, I. xii. (p. 26), run thus:—

"Incipit autem duorum ferme milium spatio a monasterio Aebbercurnig ad occidentem in loco, qui sermone Pictorum Peanhafel, lingua autem Anglorum Penneltun appellatur; et tendens contra occidentem terminatur juxta urbem Alcluith."

Dr. Holmes rightly acquiesces in the view that *fahel* is an old form of the Irish genitive *fáil* matching a nominative *fál*, "a hedge, a wall"; but this does not, to say the least of it, help the theory that Pictish phonetics were like those of Welsh rather than of Gaelic. As to Bede's *pean* from Latin *pinna*, the author proceeds to show how absurd it is to think that this word "could beget a geographical name." In any circumstances whatsoever, that sort of statement must be hard to prove, so the argument comes dangerously near mere quibbling, and the appeal to Cæsar should have been an appeal to the German Diez, who derives from Latin *pinna* ("Zinne der mauer") the Italian *penna*, "the top, height, or peak of a hill or mountain," and the Spanish *peña*, "a rock, a cliff," instances of which Diez finds in the oldest Spanish records as Latin *pinna*. This is not all; a passage in the second volume of Stokes and Strachan's "Thesaurus Palæohibernicus," from a famous Irish MS. written in the early years of the ninth century, has the words *a pinna montis Berbicis usque ad montem Mis.* The latter height was probably Slemish Mountain, in co. Antrim; the Top of the Mountain of the Wether (*vervex*) remains to be identified. But its name in the Book of Armagh shows that *pinna* was current in Irish Latinity, and was capable of forming part of a place-name. From Latin it passed into the Goidelic language, whence Bede's *Pean-fahel*, which is accordingly neither Kymric nor even semi-Kymric. One of the case forms of a feminine *pinna* in modern Irish would be *pinn*, and it was known to O'Reilly, who gives it in his dictionary as a feminine meaning "the summit of a hill or headland."

The foregoing instances will serve to show that the author has not been quite happy in his treatment of the philologists; whether he has been happier with the geologists and astronomers, the ethnologists and archaeologists, they could best tell. We regret to be unable for want of space to pass under review the rest of the second part of the work: we have drawn on the excursus treating of the ethnology of ancient Britain. There are others, however, on such attractive subjects as the Cassiterides, the configuration of the coast of Kent in the time of Cæsar, Portus Itius, the place of Cæsar's landing in Britain, and many minor themes. The Clarendon Press has done

its part with its wonted success, and the reader has the aid of useful maps, together with good illustrations. As to the work as a whole, one may say that, in spite of certain grave defects and a uniform lack of originality, it is a great monument to the author's industry.

LINEAR ALGEBRA.

Synopsis of Linear Associative Algebra. By J. B. Shaw. Pp. 146. (Washington: Carnegie Institution, 1907.)

THIS work serves three purposes: it gives a bibliography of the subject; a synopsis of the various algebras considered, in a fairly uniform notation, with a classification into families and types; and, in the introduction and § xiii. especially, some general remarks on algebra and its development. Part iii. (pp. 113-134) deals with applications.

Prof. Shaw points out that there are two views of complex algebra:—

"the one regards a number in such an algebra as in reality a duplex, triplex, or multiplex of arithmetical numbers or expressions; . . . the other regards the number in a linear algebra as a single entity, and multiplex only in that an equality between two such numbers implies n equalities between certain coordinates or functions of the numbers."

On this it may be remarked that both views are equally legitimate, and equally useful, but in different ways. The formulæ of a special algebra which are most characteristic and most powerful are those which most naturally associate themselves with the second point of view; an example is afforded by the quaternion formula $V(aV\beta\gamma)=\gamma Sa\beta-\beta Sa\gamma$. On the other hand, the place of quaternion algebra among its fellows is most clearly shown when we consider a quaternion as a complex (a, b, c, d) of four ordinary numbers, with rules for the addition and multiplication of two such tetrads.

The general impression produced by reading the synopsis is that, after Grassmann and Hamilton, the most remarkable work has been done by Benjamin Pierce. By developing his methods it has been possible to make a classification of linear associative algebras which, so far as it goes, is really exhaustive, and may be said, also, to be a natural classification. Of recent papers, those of Cartan, Frobenius, and Poincaré deserve particular mention; they tend to show that the characters of special algebras can be included in the all-embracing theory of groups.

A few lines (p. 18) are given to a definition of complex numbers by Mr. Bertrand Russell, in terms of logical constants. This is certainly interesting from a philosophical point of view, but it illustrates a tendency on the part of what may be called the Peano school to over-refine their definitions, and become verbose if not tautological. When the theory of real numbers has been logically established, it is sufficient to define a complex algebra in arithmetical terms, without bringing in logical notions already used in defining number and arithmetical operations. Why not make use of a symbolism which has been fully